

Package for semiconductor components and method for producing the same

Patent Claims

1 1. A package for semiconductor components, such as FBGA packages in BOC technology
2 or the like, in which at least the rear side and the side edges of a chip mounted on a substrate are
3 enclosed by a molding covering, the potting compound used for the molding covering being
4 connected to the substrate, in a manner forming a compact unit, **characterized** in that the
5 substrate (1) has, at least partially, a sponge-like structure (7) which is provided with porous
6 openings and extends from the surface into the depth, so that molding material can penetrate into
7 the substrate (1) through capillary action.

1 2. The package as claimed in claim 1, **characterized** in that the entire surface of the
2 substrate (1) has a sponge-like structure (7).

1 3. The package as claimed in claim 1, **characterized** in that the substrate (1) in its entirety
2 has a sponge-like structure (7).

1 4. The package as claimed in claim 1, 2 or 3, **characterized** in that the sponge-like structure (7)
2 (7) has been produced by partial removal of the epoxy resin portion in the substrate (1).

1 5. The package as claimed in claim 4, **characterized** in that the sponge-like structure (7)
2 has been produced by wet or dry etching.

1 6. The package as claimed in claims 4 or 5, **characterized** in that the substrate (1) is
2 partially covered with a soldering resist mask.

7. The package as claimed in claim 1, 2 or 3, **characterized** in that the sponge-like structure (7) has been produced by mechanical surface processing of the substrate (1).

8. A method for producing the package as claimed in one of claims 1 to 7, **characterized** in that the structure, comprising the chip (2) finally mounted on the substrate (1), is preheated at least to the melting point of the molding compound before the application of the molding covering (6).

9. A method for producing the package as claimed in one of claims 1 to 7, **characterized** in that the structure, comprising the chip (2) finally mounted on the substrate (1), is subjected to heat treatment after the application of the molding covering (6).

10. The method as claimed in claim 9, **characterized** in that the heat treatment is effected at a temperature around the melting point of the molding compound.

11. The method as claimed in one of claims 1 to 7, **characterized** in that, before the mounting of the chip (2), the substrate (1) is partially coated with a thin layer of molding compound and subjected to heat treatment at a temperature around or above the melting point.

12. The method as claimed in claim 11, **characterized** in that the molding compound is printed or dispensed onto the substrate (1).